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NEW YORK STATE COLLEGE OF AGRICULTURE ANNOUNCEMENT OF WINTER COURSES 1915-16

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CALENDAR 1915-16

- Nov. 9, Tuesday, Registration in all Winter Courses, beginning at 9 a. m. at the office of the Secretary, Roberts Hall, room 192.
- Nov. 10, Wednesday, Instruction begins in Winter Courses.
- Nov. 25, Thursday, Thanksgiving Day. Holiday.
- Dec. 22, Wednesday, Instruction ends. Christmas recess.
- Jan. 5, Wednesday, Instruction resumed.
- Feb. 7-12, Ninth Annual Farmers' Week.
- Feb. 11, Friday, Instruction ends in all Winter Courses.
- Mar. 2-8, Special one-week course for managers of cheese factories and creameries.

NEW YORK STATE COLLEGE OF AGRICULTURE

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 Thomas Alexander Baker, B.S., Instructor in Animal Husbandry.
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 Lewis Merwin Hurd, Extension Instructor in Poultry Husbandry.

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 Henry Emil Allanson, Private Secretary to the Dean.
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 Anna Mary Atwater, Laboratory Assistant in Plant Breeding.
 Laura McLallen Van Auken, Clerk in Department of Dairy Industry.
 Alfred Evan Boicourt, Foreman of Experimental Plant, Poultry Husbandry.
 Floyd Edward Andrews, Foreman of Instruction Plant, Poultry Husbandry.
 Herbert Percival Buchan, Foreman of Incubation Division, Poultry Husbandry.
 William A. Frederick, Landscape Gardener.
 Herbert W. Teeter, Superintendent of Plant Breeding Gardens.
 Mrs. E. H. Starr, Clerk in Department of Poultry Husbandry.

THE WINTER COURSES

The Winter Courses have been part of the regular work of the College of Agriculture since 1893, when the Course in General Agriculture was established. The Winter Courses are now seven in number:

1. Agriculture
2. Dairy Industry
3. Poultry Husbandry
4. Fruit Growing.
5. Home Economics
6. Flower Growing
7. Vegetable Gardening

The Course in Agriculture is entirely elective, the student choosing his own schedule of subjects under the guidance of a faculty supervisor. The course is intended primarily for persons who are engaged in general farming or who expect to take up farming. The other six courses, or groups, are more or less fixed professional courses, intended for persons who desire to specialize in the respective fields.

All the Winter Courses will begin on November 9, 1915, and will close on February 11, 1916. Instruction will begin at 8 a. m. on November 10. No work will be given on November 25; and none will be given from December 23 to and including January 4, these days being allowed for Christmas recess.

Correspondence concerning these courses and other instruction in the College of Agriculture may be addressed to The Secretary, College of Agriculture, Cornell University, Ithaca, New York.

Two Year Courses

It is advised that students plan to spend at least two winters at the College, in the first winter taking general courses in agriculture, and in the second winter specializing in the subjects in which they are particularly interested. The large number of elective subjects in the Course in Agriculture makes it possible for students to register in that course for a second year without duplication of specific subjects of study.

Expenses

Tuition is free to residents of New York State. Nonresidents pay a tuition fee of \$25. There are a few small fees and incidental expenses, which are detailed under the description of each course, but practically the only expense is the cost of living in Ithaca and the railroad fare to and from Ithaca. Satisfactory table board can be procured in Ithaca, within from five to fifteen minutes walk of the campus, for about \$4 to \$4.50 a week. Comfortable rooms near the place of boarding may be engaged at from \$1.50 to \$2 a week for each person when two persons occupy the room, and from \$2.50 to \$3.50 when one person occupies the room. The cost of books need not be more than \$5, but it has been the experience of winter-course students in the past that they wish to purchase a number of books to take home, and it would be well, if possible, to allow at least \$10 for this item. The expenses of students in the Winter Courses of past years, as stated by them, have been from \$100 to \$150, the average now being probably about \$135. By careful management this may be reduced somewhat; but it is best not to stint too much, since too great economy is likely to lessen the value of the course.

Students are liable for breakage due to carelessness on their part.

All the fees mentioned under each course must be paid to the Treasurer of the University (Morrill Hall) within five days after registration.

Infirmary fee. Every registered student at Ithaca is charged an infirmary fee of \$3 a term, payable at the beginning of each term. Students in the Winter Courses are required to pay the infirmary fee for one term. In return for the infirmary fee, any sick student is, on his physician's certificate, admitted to the Infirmary, and is given without further charge a bed in a ward, board, and ordinary nursing, for a period not exceeding two weeks in any one academic year. Extra charges are made for private rooms, special food, and special nurses. If a sick student who has not received two weeks service in the year is refused admittance to the Infirmary by reason of lack of accommodation, he is entitled to a refund of the fee.

Self-support. In the past, a few students have been obliged to earn money during the course and have worked at odd jobs about the University or on neighboring farms. This is never advisable unless absolutely necessary. It is much better to borrow the necessary money or to postpone the course of study until another year,

than to be thus handicapped during the limited time spent at the University. All the energies should be concentrated on the work of the course.

Scholarships

Grange scholarships. At its 31st annual meeting, held at Cortland, February 4, 1904, the New York State Grange resolved to appropriate funds annually, to be given to members of the order in the form of scholarships in any of the Winter Courses in Agriculture at Cornell University. The scholarships, now twelve in number, are each \$50 in cash, to be awarded to men and women who attain the highest standing on competitive examination. Awards are made each summer. Candidates should apply before June 1 to the Master of the Pomona Grange in their home counties, or to the Deputy in counties that have no Pomona.

The Jewish Agricultural and Industrial Aid Society of New York instituted in 1908 a system of free scholarships to enable the children of Jewish farmers to attend the short winter courses offered by the agricultural colleges in the States in which they reside. The scholarships are awarded by competition, which consists in the writing of a brief essay on an agricultural topic. Children of Jewish farmers living and working on the farms of their parents are eligible to compete for these scholarships. The number of scholarships is unlimited, and the stipend is sufficient to pay all the expenses of the holder for the course, such expenses usually amounting to from \$100 to \$150. For the New York State College of Agriculture at Cornell University, a number of these scholarships have been awarded each year since their establishment. Applications for these scholarships should be made to The Jewish Agricultural and Industrial Aid Society, 174 Second Avenue, New York City.

Admission

The Winter Courses are business and occupational courses, not academic; hence there are no examinations for admission. However, in order that the student may be able to make the best use of the instruction it is necessary that he should have a good common school education. Winter-course students sometimes are seriously handicapped in their work by being deficient in arithmetic and in English. Persons who are planning to take a Winter Course are advised to review these subjects before coming to Ithaca.

Applicants for admission to the Winter Courses should, by way of preparation, read carefully some of the best books, bulletins, and other literature on the subject to which their attention will be chiefly directed while at Cornell University. On application to the Secretary, appropriate books for such reading will be suggested.

Women who desire to pursue one of the Winter Courses should correspond with Professor Martha Van Rensselaer, Ithaca, New York, in regard to rooms and accommodations. All women students registered in any of the Winter Courses are under the supervision of Professor Van Rensselaer during the period of the courses. Not a few women have taken the work in agriculture with results satisfactory to themselves and to their instructors.

Age. All the courses are open to both men and women of at least eighteen years of age. There is no limit to the age above eighteen; some of the best winter-course students have been mature men and women, owners of farms or managers of dairy or poultry plants. In view of the fact that no maximum age limit is stated, each applicant is required to give satisfactory evidence of his capability to do the work required.

Application. This circular contains an application blank for admission to the Winter Courses and a schedule sheet for courses to be taken. Both of these should be made out in full and forwarded to the Secretary at once by any person who is planning, as yet even indefinitely, to attend any one of the Winter Courses. The filing of an application for admission does not constitute an obligation to attend, and applications may be withdrawn at any time.

Any one who has graduated from the common schools of the State, or who has an eighth grade certificate, should be able to do the winter-course work satisfactorily. When making application, candidates for admission should give a description of their school training and if possible should send a certificate or a statement from the teacher of the school last attended.

Applicants for the professional Course in Poultry Husbandry must have had at least six months active and consecutive work on an approved farm or poultry plant. A statement signed by the employer stating the kind, amount, and quality of work done must accompany the application for admission.

Arrival at Ithaca. Students who desire advice concerning rooming and boarding places are invited to come directly to the College of

Agriculture on their arrival at Ithaca. It is desirable that all housing arrangements should be completed before registration day.

Registration

On Tuesday, November 9, beginning at 9 a. m., all students must report for registration at the office of the Secretary of the College of Agriculture, Roberts Hall, room 192. After registering here, students will go at once to the headquarters of their particular Winter Course or to their faculty supervisor, as assigned. The headquarters of the several professional Winter Courses are as follows: Course in Dairy Industry, Dairy Building, room 132 (first floor); Course in Poultry Husbandry, Poultry Building, room 325 (third floor); Course in Fruit Growing, Roberts Hall, room 202 (second floor); Course in Home Economics, Home Economics Building (first floor); Course in Flower Growing, Roberts Hall, room 212 (second floor); Course in Vegetable Gardening, Poultry Building, room 253 (second floor). Students in the course in Agriculture will be assigned to their faculty supervisors at the time of their registration.

Study cards. After the student has filled out and returned to the Secretary his study card showing the subjects for which he wishes to register, he may not change his registration in any respect except on the recommendation of the head of the Winter Course concerned, or of his faculty supervisor, and with the approval of the Secretary. The schedule sheet which the applicant fills out in advance may subsequently be changed at the request of the applicant, and is not to be confused with the study card, which is made out after the student has come to register.

Methods of Instruction

Instruction in the Winter Courses is given by lectures, by such practical work (laboratory practice) in the various agricultural operations as can be conducted at the time of the year, and sometimes by trips or excursions to points of special interest.

The lectures are given in large part by the regular staff of the College of Agriculture. The lectures are plain and practical, in the style of farmers' institute talks. As far as possible, collected material is used for illustrating the subjects. When this is impossible, lantern views are often used. Free discussion by the students of the subject

under consideration is encouraged. Further opportunity for general discussions is afforded in the meetings of the winter-course clubs.

Other lectures are given to the students by successful practical men, in large part from New York State, who are directly engaged in agriculture as a business. These men present to the students the results of their experience and observation.

There are also special lectures by various members of the university faculty who are not members of the faculty of the College of Agriculture. The winter-course students are welcomed at the various addresses given by eminent men before the University in general.

Practical work is made a special feature in the Winter Courses. The student is expected to perform all the various operations as carefully as if he were working at home as a practical farmer. In the courses in Dairy Industry, Poultry Husbandry, and Home Economics, the instruction is in large part practical, and the students have an opportunity of becoming familiar with all the essential operations in these enterprises. In the courses in Agriculture, Fruit Growing, Flower Growing, and Vegetable Gardening, there is necessarily a smaller amount of practical work; advantage is taken, however, of the greenhouses, barns, and laboratories, in demonstrating to the students some of the operations that would naturally be conducted in the summer season. Whenever possible, the aim is to make the practical work take up as large a part of the student's time as do the lectures.

Excursions to neighboring points of special interest have been made a feature of the Course in Poultry Husbandry. Such excursions are conducted in other courses also whenever practicable.

The word *hour* in the following schedules means one lecture of one hour each week for twelve weeks, or one period of two and one-half hours of laboratory or practice each week for twelve weeks.

The City and the University

Ithaca is situated in Tompkins County at the head of Cayuga Lake. It is a city of about fifteen thousand inhabitants. It is reached by the Lehigh Valley and the Delaware, Lackawanna, and Western Railroads. The University stands on a plateau about four hundred feet above the lake. The officers of instruction and administration at Cornell University number nearly seven hundred. The campus and grounds cover one thousand and ninety-nine acres.

The main buildings of the University are over thirty-five in number, providing quarters for the several colleges of the University. These are the Graduate School, and the Colleges of Arts and Sciences, Law, Medicine, Agriculture, Veterinary Medicine, Architecture, Civil Engineering, and Mechanical Engineering.

The New York State College of Agriculture at Cornell University occupies new buildings erected by the State. These buildings are large and well equipped, and afford an attractive and comfortable home for the College.

Social and Religious Advantages

Every year the students in each of the several Winter Courses have formed clubs. These societies meet once a week and debate subjects of special interest, discuss various problems, sing college songs, and indulge in other forms of social enjoyment. Every winter-course student is urged to attend these meetings.

The winter-course students are welcomed at the meetings of the Agricultural Association, the Lazy Club, the Poultry Association, the Round-Up Club, and the other organizations of students in the College. The meetings of these societies are devoted to discussions of live agricultural subjects and to the promotion of friendship among the students. Usually on the first Thursday evening of each month the Dean of the College meets the faculty and the students of the College in the Agricultural Assembly. At this meeting the Dean gives a talk on matters of special importance to those interested in agriculture and country life, or a reading, followed by singing and social entertainment.

Each winter the students in the various Winter Courses compete for the Morrison Winter Course Trophy Cup. Last year the contest was a series of debates, as a result of which the cup was awarded for one year to the students in the Winter Course in Dairy Industry.

Religious services, provided for by the Dean Sage Preachership Endowment, are conducted in Sage Chapel throughout the college year, by eminent clergymen selected from the various religious denominations. These services are supplemented by the Cornell University Christian Association, a voluntary organization of students and professors formed for their own religious culture and the promotion of Christian living in the University. The Christian Association has its home in Barnes Hall. It has a permanent secretary. It has also a carefully selected Biblical library and com-

fortable reading and recreation rooms. Courses in Bible study are conducted throughout the year, and special courses are provided for students in the Winter Courses.

In addition to the Young Men's Christian Association there is a flourishing Young Women's Christian Association, with quarters in Barnes Hall.

The students of the University are welcomed by the numerous churches in the city of Ithaca at all their services.

Positions

The College does not promise to find positions for students registered in any of its courses, but it has opportunity to recommend students for a large number of positions. Thus far it has been difficult to find students for all the places which the College has been asked to fill.

Many students who have completed a Winter Course have obtained an increase in salary in the following season sufficient to pay the entire cost of the course. Such results, although not guaranteed, are not uncommon; they show that there are excellent opportunities for trained men.

A student desiring a recommendation from the College must fulfill the following conditions: (1) he must be of good character; (2) his previous record must be good; (3) his work in the Winter Course must be satisfactory.

In the case of the Dairy Course, previous experience in a well-conducted dairy plant is strongly advised for those who expect the College to recommend them for positions.

In the case of the Poultry Course, it is recommended that persons inexperienced in the handling of poultry spend at least a year in acquiring practical knowledge of the business before entering the Winter Course in Poultry Husbandry. Students who have not previously had a considerable amount of farm or poultry experience cannot, as a rule, be recommended to positions of responsibility until they have spent a season on an approved poultry farm. This is particularly true for the better positions, in which managers or superintendents are wanted to take charge of poultry farms. The salaries obtained by students after completing the Course in Poultry Husbandry range from \$25 to \$75 a month with board and room, the average being about \$35 to \$40.

DESCRIPTION OF THE WINTER COURSES

I. COURSE IN AGRICULTURE

Most of the young men who come for a Winter Course expect to engage in general farming or hope to obtain positions as superintendents of farms on which diversified agriculture is practiced. It is for these that the general Course in Agriculture is especially designed. Persons who plan to specialize will register in one of the professional courses or groups.

On the other hand, the Course in Agriculture can be taken with advantage also by those who plan to do special work in agriculture later. It gives an opportunity for laying a broad foundation of general knowledge as a basis for subsequent specialization. This course gives a general survey of agriculture in practically all its phases. It is strongly advised that persons desiring to pursue one of the Special Winter Courses should first take the Course in Agriculture and postpone their special work to the following winter.

Choice of subjects. Students may choose from the following courses such subjects as they desire to take and are able to schedule without conflict. No student may take more than a total of eighteen hours without special permission, and sixteen hours is as much as the average student can carry satisfactorily. [For definition of *hour*, see page 12.]

Agricultural Chemistry

1. **Fertility of the Land.** November 10 to December 11. Two hours a week. Lectures, daily except M, 8. Morse Hall, Lecture Room 1. Professor CROSS.

A study of soils from the chemical and physical points of view, with discussions of fertilizers, manures, and the principles of plant growth.

Animal Husbandry

1. **Feeds and Feeding.** Two hours a week. Lectures: for dairy students only, W, 9, Forestry Building 122; for other students, W, 3, Animal Husbandry Building A. Practice: Sec. A, Th, 8-10 (for dairy students only), Dairy Building 222. Sec. B, F, 11-1; sec. C, S, 11-1; Animal Husbandry Building A. Professor SAVAGE and assistants.

The principles and practice of compounding rations and of feeding farm animals.

2. **Breeds and Breeding.** Three hours a week. Lectures, M F, 4. Animal Husbandry Building A. Practice: sec. A, M, 8.30-10; sec. B, M, 11-12.30; sec. C, W, 11-12.30; sec. D, F, 11-12.30; sec. E, S, 10-11.30. Animal Husbandry Pavilion. Professor WING and Mr. MEADE.

The principles of breeding farm animals; the history of breeds; the adaptation of different breeds for certain purposes; the care of farm animals.

Dairy Industry

8. **Farm Butter Making.** Three hours a week. Must be preceded or accompanied by Dairy Industry 10. Lectures, W, 2. Dairy Building 222. Practice: sec. A, M, 2-6; sec. B, W, 9-1; sec. C, Th, 9-1. Dairy Building. Professor GUTHRIE and Mr. SCOVILLE.

This course will include cream separation, starter propagation, cream ripening, and churning, washing, salting, and packing butter. Hand churns and small power churns will be used. A small amount of testing by the Babcock method will be included. Laboratory deposit, \$3 (part returnable), will be required, to cover breakage and for rental and laundering of white suits.

9. **Market Milk and Milk Inspection.** Two hours a week. Must be preceded or accompanied by Dairy Industry 10. Lectures, F, 3. Dairy Building 222. Laboratory, T or W, 2-4.30. Dairy Building. Professor ROSS and Mr. MCINERNEY.

This course will take up standardizing of milk and cream; effect of bacterial action on the keeping quality of milk; cooling, handling, and general care of milk on the farm; judging milk; scoring dairy barns. Laboratory deposit, \$2 (part returnable), to cover breakage and for rental and laundering of white suits.

10. **Milk Composition and Tests.** For students in general Agriculture only. Two hours a week. Lectures, Th, 2. Dairy Building 222. Laboratory, Th, 3-5.30, or F, 8-10.30. Dairy Building 232. Professor TROY, and Messrs. ——— and ———.

The course includes the composition and secretion of milk, the Babcock test for fat in milk and its products, acid tests, salt tests, moisture tests, use of the lactometer, and some of the simple tests for preservatives and adulterations. Laboratory deposit, \$2 (part returnable), to cover breakage and for rental of laboratory apron.

Entomology

1. **Injurious Insects.** Two hours a week. Lectures, T Th, 3. Roberts Hall 131. Professor HERRICK.

The common insect pests of farm, garden, and orchard will be discussed and measures of control will be carefully considered. Specimens of the insects discussed, together with examples of their work, will be shown to members of the class whenever possible. Opportunity will be given for questions and discussions, with the hope of bringing out obscure points and clearing up all phases of the problems. The lectures and discussions will be illustrated by lantern slides and by charts.

Extension Teaching

1. **Extension Work.** One hour a week. Lectures and discussions, M, 3, or W, 2. Roberts Hall 131. Criticism by appointment, daily, 8-1. Professor EVERETT, Assistant Professor WHEELER, and Messrs. WHITNEY, ROBINSON, and SHAPER.

A study of the problems of university extension in agriculture. Practice in the oral and written presentation of topics in agriculture, with criticism and individual conferences on the technic of public speech. The course is designed to acquaint students with parliamentary practice, to encourage interest in public affairs, and to train for effective self-expression in public. Open to all students in the Winter Courses.

Special training will be given to competitors for the winter-course prize for public speaking. This prize of ten dollars is given by the Department of Extension Teaching, with the object of developing an interest in rural affairs. Competition is open to all winter-course students. The contest will take place in Farmers' Week, in February.

Farm Crops

1. **Farm Crops.** Counts four hours a week; six periods to be taken. Lectures, daily except M, 8. Roberts Hall 131. Professor STONE. Laboratory: sec. A, M, 11-1; sec. B, T, 11-1; sec. C, W, 11-1; sec. D, Th, 11-1; sec. E, F, 11-1; sec. F, S, 11-1. Agronomy Building 202. Mr. DYNES and assistants. Laboratory continues throughout the Winter Course, beginning on November 10. Lectures will begin after the close of course 1, Fertility of the Land, on December 13, and continue for the remainder of the course.

A study of field crop production. As much time as possible is devoted to the principles of soil management and the culture of particular crops, as corn, potatoes, wheat, oats, and grass.

Persons particularly interested in general agriculture are recommended to take with this course either Fertility of the Land, two hours a week, or Soils 200, one hour a week; Animal Husbandry 1, two hours a week; Farm Management 1, two hours a week; and electives to make sixteen or eighteen hours. Laboratory fee, \$1.

Farm Management

1. **Farm Accounting.** Two hours a week. Lectures, T, 2. Caldwell Hall 100. Laboratory, M, W, or F, 10-12.30. Farm Management Building 102. Mr. FOX.

Farm inventories, single enterprise accounts, complete farm accounts, and farm records. Special emphasis will be placed on the interpretation of results and their application in the organization and management of the farm. Laboratory fee, \$1.

2. **Farm Management.** Three hours a week. Lectures, M F, 3. Caldwell Hall 100. Laboratory, T, Th, or S, 10-12.30. Farm Management Building 102. Assistant Professor THOMPSON.

Lectures on farming as a business, labor income, size, diversity, and production of business, regions and types of farming, cropping systems, farm layout, ways of starting farming, choosing and buying a farm, and other questions in farm management.

Floriculture

3. **Amateur Floriculture.** Three hours a week. Lectures, T, 2. Floriculture Building. Practice, W, 10-1. Greenhouses. Miss MINNS.

This course is designed primarily for persons interested in growing plants in the house. Plants best suited for house culture will be considered, also plants for indoor and outdoor window boxes and veranda boxes. Methods of preparation of soil, propagation, potting, and seed sowing will be studied. Laboratory fee, \$1.50.

4. **Gardening and Garden Flowers.** Three hours a week. Lectures, M W F, 9. Greenhouses. Mr. HOTTES.

A course designed to study the methods of propagation and growing of outdoor annuals and herbaceous perennials. Studies will be made, as far as possible, of individual garden problems. The culture of outdoor roses, asters, peonies, phlox, iris, and bulbous plants, will be considered. Occasional laboratory periods, which are optional for the student, will be held. Laboratory fee, \$1.

Forestry

1. **The Farm Woodlot.** One hour a week. Lectures, M, 8. Forestry Building 210. On three Saturday afternoons there will be field trips if the weather permits. Professor MOODY.

A study of the care of the woodlot, including forest planting and sowing, thinning, the cutting of ripe timber, measurement of the amount of standing and felled timber, and protection from fire and other enemies.

Home Economics

Any of the following subjects from the Course in Home Economics may be taken by students registered in the Course in Agriculture, as far as laboratory accommodations permit:

1. **Foods.** See page 34.
2. **Household Sanitation.** See page 34.
3. **Household Management.** See page 34.
5. **Art in the Home.** See page 35.
6. **Home Industries for Farm Women.** See page 35.
7. **Rural Recreation.** Open to women and men in all Winter Courses. See page 35.

Landscape Art

6. **Rural Improvement.** Hours to be announced. Professor FLEMING.

A course of six or more lectures, commencing after the Christmas recess, dealing with questions of rural improvement and intended to give the student a general view of landscape art together with specific hints for working out some of his home problems.

NEW YORK STATE COLLEGE OF AGRICULTURE AT CORNELL UNIVERSITY

APPLICATION FOR ADMISSION TO WINTER COURSES

Name of applicant *IN FULL*.....
(e.g., John James Jones)

Permanent home address (number and street, or R. F. D.).....

Place.....County.....State

Date of birth, month.....day.....year

Nationality.....Married.....Date.....

Name of parent or guardian, or person to be notified in case of serious illness or accident.....

Address of parent or guardian.....

Name of school or college last attended.....

Place.....State.....When?.....How long?.....

Have you ever before registered in this or any other college?.....

When?.....Where?.....In what course?.....

Have you received any degree or certificate?.....What?.....Where and when?.....

OVER

What has been your practical experience in farm work and in the special work covered by the Winter Course in which you are registering?.....

What has been your residence and occupation during the last five years?

Occupation 1911.....Place.....State.....

Occupation 1912.....Place.....State.....

Occupation 1913.....Place.....State.....

Occupation 1914.....Place.....State.....

Occupation 1915.....Place.....State.....

What church do you attend?.....

REFERENCES.*—I am personally acquainted with the above applicant and know.....to be of good moral character, industrious, studious, and physically and otherwise capable.

Name.....Name.....

Position.....Position.....

Address.....Address.....

*Two endorsements are necessary, and should be preferably by your teacher and your pastor or a public official. These persons should sign the application themselves.

NOTE.—The applicant must answer ALL the questions asked on both sides of this application blank. When the blank has been answered in full, mail it to Cornelius Betten, Secretary, College of Agriculture, Cornell University, Ithaca, New York.

Name
(e.g., John James Jones)

SCHEDULE OF SUBJECTS

Before filling out the blanks on this page, study carefully the guide given on the reverse side.

Indicate by a check mark (✓) the one of the following seven courses in which you desire to register. Do not check more than one course.

- | | | |
|----------------------|------------------|------------------------|
| 1. Agriculture | | 5. Home Economics |
| 2. Dairy Industry | 4. Fruit Growing | 6. Flower Growing |
| 3. Poultry Husbandry | | 7. Vegetable Gardening |

If you desire to specialize in either the professional Course in Dairy Industry or the professional Course in Poultry Husbandry, it is not necessary for you to fill out the remainder of the blanks on this page.

If you are registering in any one of the other five courses, write here the number and the name of each subject that you desire to take, using the numbers given in the catalogue. Example: No. 2. Subject **Farm Management**. Without special permission, no student is allowed to take more than eighteen "hours" of work. For definition of "hour," see page 12.

No.	Subject.....
No.	Subject.....
No.	Subject.....
No.	Subject.....
No.	Subject.....
No.	Subject.....
No.	Subject.....
No.	Subject.....
No.	Subject.....

After filling out this schedule completely according to directions, mail it, with your application for admission, to Cornelius Betten, Secretary.

OVER

GUIDE FOR THE APPLICANT

In filling out the Schedule of Subjects on reverse side of this sheet

We shall assume, for example, that you desire to register in the Course in Agriculture and to take the following subjects, totaling seventeen hours:

1. Fertility of the Land. Two hours. T W Th F S, 8. Nov. 10 to Dec. 11.
1. Feeds and Feeding. Two hours. W, 3; practice, two choices.
1. Farm Crops. Four hours. T W Th F S, 8; practice, six choices. Dec. 13 to Feb. 11.
2. Farm Management. Three hours. M F, 3; practice, T, Th, or S, 10-12.30.
1. Farm Management, Farm Accounting. Two hours. T, 2; practice, M, W, or F, 10-12.30.
2. General Fruit Growing. Three hours. M W F, 2.
200. Soils. One hour. M, 8.

You would then fill out the Schedule of Subjects on the reverse side of this sheet as follows:

- | | | |
|---|--|--|
| <ol style="list-style-type: none"> 1. Agriculture 2. Dairy Industry 3. Poultry Husbandry | <ol style="list-style-type: none"> 4. Fruit Growing | <ol style="list-style-type: none"> 5. Home Economics 6. Flower Growing 7. Vegetable Gardening |
|---|--|--|
-
- | | |
|---|--|
| No. 1. Subject Fertility of the Land
No. 1. Subject Feeds and Feeding
No. 1. Subject Farm Crops
No. 2. Subject Farm Management | No. 1. Subject Farm Management, Farm Accounting
No. 2. Subject General Fruit Growing
No. 200. Subject Soils
No. -. Subject _____ |
|---|--|

By means of the following schedule form, we can see that the subjects do not conflict in the times at which they are given; Fertility of the Land and Farm Crops come at the same hours, but Farm Crops is not begun until after Fertility of the Land is completed on December 11.

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8	Soils 200	Fertility of the Land 1 Farm Crops 1	Fertility of the Land 1 Farm Crops 1	Fertility of the Land 1 Farm Crops 1	Fertility of the Land 1 Farm Crops 1	Fertility of the Land 1 Farm Crops 1
9						
10	Farm Management 1			Farm Management 2		
11	Laboratory	Farm Crops 1 Laboratory		Laboratory		Feeds and Feeding 1 Laboratory
12						
2	Fruit Growing 2	Farm Management 1	Fruit Growing 2		Fruit Growing 2	
3	Farm Management 2		Feeds and Feeding 1		Farm Management 2	
4						

If you desired to take course 1, **Farm Mechanics**, you could not take course 2, **General Fruit Growing**, as they both come M F, 2. If you desired to take course 10, **Milk Composition and Tests**, you would have to take the Th, 3-5.30, practice period, as the other practice periods conflict with Fertility of the Land and Farm Crops; and you could not take Injurious Insects, as this conflicts with the Th, 3-5.30, practice period. In like manner you can work out your schedule for any other subjects that you desire to take. You can make a schedule form similar to the above for your own use in scheduling the subjects that you desire to take. Be sure there are no conflicts in time, in either lecture or practice (laboratory) periods, before you fill out your schedule on the reverse side. The times given in the announcement are fixed and cannot be changed; therefore it is impossible for a student to take two subjects that come at the same hours.

Plant Breeding

1. **Plant Breeding.** Two hours a week. Lectures and discussions, T Th, 9. Forestry Building 206. Mr. FRASER.

A discussion of plant improvement, with special reference to farm and horticultural crops. Methods of selection and hybridization as means of improvement will be carefully considered. Fee, 50 cents.

Plant Pathology

1. **Plant Diseases.** Three hours a week. Lectures, S, 9. Home Economics Building 245. Practice: sec. A, for students in Vegetable Gardening, M, 10-1, W, 11-1; sec. B, for students in Fruit Growing, T, 11-1, Th, 10-1; sec. C, for students in Fruit Growing and in general Agriculture, T, 10-12, F, 10-1; sec. D, for students in Flower Growing, M, 10-1, W, 11-1. Bailey Hall, West Basement. Messrs. HASKELL, HOPKINS, and ———.

Some time will be spent in studying the structure and development of the normal plant in order that the diseased condition may be appreciated. The more important diseases of various commercial crops will then be carefully studied in regard to their symptoms, cause, and control. Laboratory fee, \$1.50; breakage deposit, \$2.

Pomology

2. **General Fruit Growing.** Three hours a week. Lectures, M W F, 2. Roberts Hall 292. Mr. ROGERS.

This course is designed for students who desire a general knowledge of fruit growing. It covers practically the same topics as are included in course 1 in Fruit Growing, but in less detail. It is a lecture course only, with no laboratory work.

Poultry Husbandry

(Students may take either course 11 or course 1, but not both.)

11. **Farm Poultry.** Two hours a week. Must be accompanied by course 12. Lectures, Th F, 4.45-5.45. Poultry Building 375. Professor RICE, Assistant Professor BENJAMIN, and Messrs. KENT, DANN, ANDREWS, BUCHAN, and others.

A discussion of the domestic breeds of poultry; hatching and rearing; the principles of breeding, feeding, and management; marketing; diseases of poultry; the building of poultry houses; and related matters.

12. **Farm Poultry Laboratory.** One hour a week. Must be accompanied by either course 11 or course 1. Practice, M, T, or W, 10.30-1. Poultry Building 325. Professor RICE, and Messrs. ——— and ———. Fee, \$2.

1. **Poultry Husbandry.** See page 30. This course may be taken by students registered in the course in Agriculture. Must be accompanied by course 12.

Rural Engineering

1. **Farm Mechanics.** Three hours a week. Lectures, M F, 2. Dairy Building 222. Practice, Th or F, 10-12.30. Rural Engineering Building. Mr. HAZEN and assistants.

A study of the principles of operation, details of construction, and practical operation and care of: A—Machinery, including gasoline engines, devices for transmitting power, hydraulic dams, pumps, spray nozzles, spraying outfits, water supply outfits; B—Implements, including mowers, grain binders, and binder attachments, with a discussion of the special mechanical features of some of these implements now on the market. Laboratory fee, \$2.

[3. **Farm Structures.** Two hours a week. Lectures, M W, 11.] Not given in 1915-16.

A study of building materials used on the farm, and of the principles of construction for barns, stables, and other farm buildings, together with their application in practice.

Soil Technology

200. **Soils.** One hour a week. Lectures, M, 8. Roberts Hall 131. Professor BIZZELL.

A study of the physical, chemical, and biological properties of soils, and of their relation to soil management from the standpoint of plant production.

Vegetable Gardening

1. **Commercial Vegetable Growing.** See page 38.

2. **Vegetable Forcing.** See page 38.

3. **Home Vegetable Gardening.** Two hours a week. Lectures, M, 8. Poultry Building 325. Laboratory, F, 10-12.30. Poultry Building 350, and vegetable greenhouses. Mr. SCHNECK.

Production of vegetables for home use. Lectures and laboratory work on the planning and management of the garden, and on the characteristics and special requirements of the various vegetable crops. Laboratory fee, \$1.

Veterinary Medicine

1. **Diseases of Dairy Cattle, and Veterinary Hygiene.** One hour a week. Lectures, S, 9. Dairy Building 222. Doctor UDALL.

This course includes a discussion of the commonest diseases of dairy cattle, the prevention and cure of these diseases, ventilation of stables, and general questions of animal hygiene.

II. COURSE IN DAIRY INDUSTRY

This course is intended especially for persons who make a business of manufacturing butter or cheese or of handling milk for the market; and persons expecting to enter this field professionally should register in this course, not in the Course in Agriculture. (Students in general Agriculture should refer to page 16). The work of the course requires the student's entire time.

If there are more applicants for the course than laboratory space will allow, students will be accepted according to their previous dairy experience and the order in which the applications are received.

Students in the professional Winter Dairy Course are expected to attend the annual meeting of the New York State Dairymen's Association at Rochester in December.

There will be a meeting of dairy-course students and teachers in lecture room 222 of the Dairy Building at five o'clock on the afternoon of registration day, November 9. All students registered in the Winter Course in Dairy Industry are required to attend this meeting.

Special Expenses

Laboratory fee (to pay in part for materials used) . . .	\$15.00
Laboratory deposit (part returnable) to cover rental of suits, laundry, and breakage	6.50
Books, about	5.00
One suit of blue overalls, about	1.00

Books, notebooks, and blue overall suits can be procured at reasonable prices in Ithaca. The white suits and rubber aprons for use in the creamery and the laboratory are furnished by the Department and rented to students as stated above.

Methods of Instruction

Instruction, although partly by lectures and recitations, is largely by actual practice in the different kinds of dairy work. The class assembles daily at 8 a. m. and the class work continues for two hours. The students are then assigned, in sections, to different kinds of practice for the remainder of the day. These assignments are so made that in the course of the term each student has a due amount of work in each of the various divisions.

The lectures and recitations are given in one-hour periods. Frequently they are replaced by examinations; often, also, a part of the hour is occupied by informal discussions of former lectures or of topics previously assigned for study. The lectures are supplemented by references to dairy literature, books, current periodicals, and experiment station publications.

The Courses

The subjects of the required lecture and practice courses are as follows:

200. Milk Composition and Tests. One hour a week. Lectures, F, 9. Roberts Hall 392. Professor TROY, and Messrs. ——— and ———.

This course includes the composition and secretion of milk, the Babcock test for fat in milk and its products, acid tests, salt tests, moisture tests, use of the lactometer, and some of the simple tests for preservatives and adulterations.

200a. Milk Composition and Tests, Laboratory Course. Two hours a week. By appointment. Dairy Building 232. Professor TROY, and Messrs. ——— and ———.

The testing laboratory is furnished with equipment necessary to teach the practical tests of dairy products, including tests for fat, solids, acidity, water, and salt, and some of the simpler tests for preservatives and other adulterations. A thorough drill will be given in making all the above determinations.

201. Butter. Two hours a week. Lectures, M W, 8. Dairy Building 222. Mr. AYRES.

This course deals with the principles and practice of butter making, from the receiving of the milk and cream to the judging and marketing of the finished product; construction and arrangement of creameries; accounts and business methods.

201a. Butter, Laboratory Course. Four hours a week. Practice by appointment, daily, 10.15-5. Dairy Building 151. Mr. AYRES.

The creamery is furnished with apparatus such as is found in a well-equipped commercial plant. The milk is received, weighed, sampled, and separated, and the entire process of ripening cream and of churning is carried through in the most thorough manner. Special attention is given to the use of starters. Every step of the work is performed by students under the close supervision of the instructor.

202. Cheese.* Two hours a week. Lectures and recitations: T, 9, F, 8, Dairy Building 222. Assistant Professor FISK and Mr. DUTTON.

The work includes the principles and methods of making cheddar (or American) cheese. Attention is given to the making and use of starters, the judging and marketing of cheese, factory accounts, the construction and equipment of cheese factories.

202a. Cheese, Laboratory Course. Four hours a week. Practice by appointment, daily, 10.15-5. Dairy Building 152. Assistant Professor FISK and Mr. DUTTON.

The cheese room is equipped with all necessary apparatus, such as is used in large factories for making cheddar cheese. All the work is performed by students, and every step is carefully observed and reported by them on blank forms provided for the purpose. Special attention is given to judging the quality of milk for making cheese, and to judging the cheese when it is ready for market.

*For fancy cheeses, see page 27.

203. **Dairy Bacteriology.** One hour a week, first six weeks of term. Lectures, M, 9. Roberts Hall 392. Practice, by appointment. Dairy Building 122. Professor STOCKING, and Messrs. PICKERILL and SUPPLEE.

This course considers the nature of bacteria and their relation to dairy work, including their sources, action on milk, butter, and cheese, and methods of controlling their growth; plating of milk, lactic acid, and gas-producing bacteria.

204. **Market Milk.** One hour a week, last six weeks of term. Lectures, M, 9. Roberts Hall 392. Practice, by appointment. Dairy Building 121. Professor ROSS and Mr. MCINERNEY.

This course includes the sanitary construction of dairy barns; score cards for dairy barns and market milk; food value of milk; standardizing milk and cream; legal standards for milk and cream; dairy utensils; and the general production and handling of clean milk.

205. **Dairy Mechanics.** Two hours a week. Lectures, S, 8. Dairy Building 222. Practice, by appointment, daily, 1.15-5. Dairy Mechanics Laboratories. Messrs. MIDDLEAUGH and ———.

The care of the boiler and engine, construction of separators, installation of shafts and pulleys, pipe fitting, belt lacing, soldering, and care of dairy machinery, are considered.

206. **Dairy Chemistry.** One hour a week. Lectures, T, 8. Dairy Building 222. Professor TROY and Mr. WHITE.

The elementary principles of chemistry are explained in order that the student may better understand the composition of dairy products and the chemical changes connected with and influencing dairy operations.

207. **Dairy Arithmetic and Bookkeeping.** One hour a week. Practice by appointment, daily, 10.15-12.30. Dairy Building 119. Professor ROSS and Mr. MCINERNEY.

A thorough drill is provided in problems such as are constantly arising in all kinds of dairy work and in the keeping of factory accounts.

1. **Feeds and Feeding.** See page 15.

1. **Diseases of Dairy Cattle, and Veterinary Hygiene.** See page 24.

SPECIAL COURSE IN FANCY CHEESE AND ICE CREAM

208. **Fancy Cheese and Ice Cream.** An elective course following the Winter Course in Dairy Industry, and open only to those who have successfully completed that course. Because of limited laboratory space, only a few students can be accepted. Admission to the course will be based on quality of work done in the preceding Winter Dairy Course and on previous dairy experience. Lectures and practice, by appointment. Dairy Building 122 and 132. Assistant Professor FISK and Mr. DUTTON.

Practice will be given with several varieties of fancy cheeses, such as cottage, cream, neufchatel, and club, and with several kinds of ice cream.

Certificate of Proficiency

A student who has completed all the work of the Winter Course in Dairy Industry and has passed all the required examinations, may become a candidate for a Certificate of Proficiency in the kind of dairy work in which he is engaged. The candidate must complete one year of satisfactory work in a responsible dairy position approved by the Department of Dairy Industry.

The candidate must report regularly, on blanks furnished by the Department for the purpose, such information in regard to his work as may be required, and each month must send a sample of his dairy product (milk, cream, butter, or cheese) to the Department of Dairy Industry to be judged. He must have his work in readiness for inspection by a representative of the Department at any time, and report of such inspection must be satisfactory to the Department.

A certificate will not be granted on a year's work if a part of the year is spent in making one product and a part in making another product. For example, six months in a cheese factory and six months in a butter factory will not entitle a man to a certificate; but two seasons of six months each in any one line of work will be accepted as one full year, if the factory does not run for a longer time.

If the candidate is regularly employed in the manufacture of more than one kind of dairy product (for example, if he is making both butter and cheese), he may become eligible to work for a Certificate of Proficiency in each of these lines by complying with the requirements stated above.

Briefly, the requirements are as follows:

- (1) Satisfactory completion of all the subjects given in the Winter Dairy course;
- (2) Satisfactory monthly reports of the work during at least one year;
- (3) The sending each month of a sample of the candidate's product to the Department of Dairy Industry, to be judged;
- (4) Satisfactory inspection by a representative of the Department of Dairy Industry.

On satisfactorily completing these requirements, a certificate will be granted. Under certain conditions a longer period than one year of work may be required.

**A SPECIAL ONE WEEK COURSE FOR MANAGERS OF
FACTORIES AND CREAMERIES**

**Beginning Thursday morning, March 2, 1916, and closing
Wednesday night, March 8, 1916**

This course is intended for managers of creameries and factories who cannot be absent from their business for any considerable time, but who wish to come to the College in order to acquire the latest knowledge in their special work. All the regular branches of cheese making and butter making will be taught, and special attention will be given to the use of the moisture and Babcock tests, creamery overrun, construction of factory and creamery buildings, drainage and water supply, commercial starters, relation of bacteria to dairy products, market milk, dairy inspection, judging dairy products, keeping factory accounts, and the like.

The only requirement for admission to this one week course is that the applicant shall have had at least one year of experience as manager of a factory or a creamery.

The only fee is \$5, payable at registration. This covers the use of white suits, apparatus, and materials required in the laboratory and practice work.

For cost of board and other expenses, see page 8.

III. COURSE IN POULTRY HUSBANDRY

The Winter Course in Poultry Husbandry is one of the means by which the College of Agriculture attempts to meet the needs of farmers. The course is intended also to assist in supplying the large and growing demand for trained poultrymen to take charge of poultry plants owned by others. Although it is manifestly impossible to give in twelve weeks full preparation for so exacting a business as poultry keeping, this course will start the student in the right direction, enable him to avoid many mistakes, and offer him facts and principles of value gleaned from the lifelong experience, study, and observation of others. Persons expecting to take up poultry raising professionally should register in the Course in Poultry Husbandry, not in the Course in Agriculture.

A meeting of all winter-course students in Poultry Husbandry with the staff of the Department will be held at five o'clock on the afternoon of registration day, November 9, in Poultry Building 375.

Special Expenses

Laboratory fee (to pay in part for materials used) . . .	\$ 7.50
Laboratory deposit (part returnable)	2.50
Two suits of work clothes (to be bought in Ithaca) . .	2.00
One set of drawing instruments	4.00
Excursions	15.00

The estimated expenses, aside from those given above, are: books (to be retained by the student), about \$5; stationary and other incidentals, \$5. For cost of board and other expenses, see page 8.

Required Subjects

1. **Poultry Husbandry.** Six hours a week. Elective to all winter-course students in Agriculture, except those who are taking Poultry Husbandry II (page 23). Lectures and recitations, daily, 9. Poultry Building 375. Professor RICE, Assistant Professor BENJAMIN, and Messrs. KENT, DANN, ANDREWS, and BUCHAN.

The lectures include discussions of subjects of special interest to poultrymen; opportunities in poultry husbandry; advantages and disadvantages of various kinds of poultry keeping; laying out and estimating the cost of poultry plants; poultry-farm management; history and characteristics of breeds; feeding for egg production and for flesh; incubating and brooding; principles of poultry-house construction; designing poultry houses; feeding chickens; caponizing; preparing eggs and poultry for market; marketing poultry products.

2. **Special Lectures.** Two hours a week. Open only to students in the professional course. M W, 4.45-5.45. Poultry Building 375.

The Department of Poultry Husbandry is fortunate in being able, through the courtesy of the New York State Veterinary College, the Cornell Medical College, and a large number of departments in the College of Agriculture, to avail itself of the expert services of many eminent teachers. Their lectures, twenty-four in number, form one of the most valuable series of lectures given in the course. These lectures are not confined to poultry topics.

3. **Laboratory Practice.** Four hours a week. Open only to students in the professional course. Sec. A, M W F, 10-12.30, S, 2-4; sec. B, T Th S, 10-12.30, F, 2-4. Poultry Building 300. Professor RICE, Assistant Professor BENJAMIN, and Messrs. KENT, DANN, ANDREWS, and BUCHAN.

This course includes designing and drawing poultry buildings and colony houses; laying out poultry plants; selecting fowls for mating; killing, dressing, picking, and marketing poultry; testing, grading, and packing eggs; study of the formation and structure of the egg; anatomy of poultry; caponizing; study of poultry feeds; mixing rations; balancing rations; fitting fowls for exhibition; holding a poultry show; judging and scoring for fancy points and for utility; sanitation.

5. **Feeding and Management Practice.** One hour a week. Open only to students in the professional course. Daily (including Sunday), one and one-half

hours, morning, noon, and afternoon, for four weeks, 7.45-8.30, 12.30-1, 4-4.45. Poultry Plant. Messrs. DANN, ANDREWS, and ———.

To each student is assigned a flock of from twenty-five to thirty fowls for egg production and a coop of chickens for fattening. The students perform all the daily operations in caring for the poultry, keeping careful records of the cost of feed, gain or loss in weight, temperature of house, time required to do the work, and profit and loss. The student also prepares and packs eggs, and kills, picks, and packs poultry for market. In addition, he takes his turn in doing many different types of work about the poultry plant.

6. **Poultry Mechanics.** One hour a week. Open only to students in the professional course. Practice, M, T, or W, 2-4. Poultry Building 125. Messrs. KENT and BUCHAN.

The use of a gasoline engine, power bone cutters, a feed mill, a corn sheller, and other appliances; making concrete posts, feed hoppers, egg crates, shipping coops, and the like.

7. **Incubator Practice.** One hour a week. Open only to students in the professional course. Daily (including Sunday), one and one-half hours, morning, noon, and afternoon, for four weeks, 7.45-8.30, 12.30-1, 4-4.45. Poultry Building 1. Professor RICE, and Messrs. BUCHAN and ———.

The student operates an incubator and makes a complete record of his work and of the results. At the conclusion of each hatch, the results of the hatches from all the incubators are tabulated so that the various machines can be compared, and the fertility, the hatching power of the eggs, and the vigor of the chicks from the different pens, can be observed.

8. **Brooder Practice.** One hour a week. Open only to students in the professional course. Daily (including Sunday), one and one-half hours, morning, noon, and afternoon, for four weeks, 7.45-8.30, 12.30-1, 4-4.45. Poultry Plant. Professor RICE, and Messrs. BUCHAN and ———.

Each student is given a brooder compartment and a brood of chickens. He performs all the daily operations in the care of the brooder and of the chicks, keeping records of temperature, feed, fuel consumption, and rate of growth of the chicks.

9. **Poultry Accounts.** One hour a week. Open only to students in the professional course. Sec. A, F, 2-4; sec. B, W, 2-4. Poultry Building 375. Assistant Professor BENJAMIN and ———.

10. **Systematic Reading.** One hour a week. Open only to students in the professional course. Th, 2-4. Poultry Building 280 and 375. Professor RICE and Miss THATCHER.

This course is intended to supplement the lectures and the laboratory work. Two hours reading each week is required. Several hours a week are set apart in which the students can do special reading along the lines in which they are interested.

Excursions. One or more excursions will be made to neighboring poultry farms, and one three-days trip will be taken, during the three days following the Christmas vacation, to visit successful New York

State farms. These excursions are required, and every student must take them in order to receive full credit for the course. The total expense of these excursions is about \$15.

Observations. Students taking the Course in Poultry Husbandry have the added advantage of observing the results of a large number of investigations with poultry which are being conducted at the university poultry plant. These include a comparison of types of houses, and of methods of feeding, breeding, trap-nesting, incubating, and brooding.

Certificate of Proficiency

On the completion of the required course, eighteen hours, a student in Poultry Husbandry may become an applicant for a certificate signed by the Dean of the College and the Professor of Poultry Husbandry, under the following terms and conditions:

A person who has completed one full term in attendance in the Course in Poultry Husbandry and has satisfactorily passed all the examinations required, may become a candidate for a Certificate in Poultry Husbandry.

A candidate must spend one full year in successful work at an approved poultry plant. He must present regularly, on blank forms furnished for the purpose, such information in regard to the work as may be required, and he must hold his plant in readiness for inspection at any time.

On satisfactory completion of these requirements a certificate will be granted. Under certain conditions a longer period than one year of practical work may be required. No student who has failed to complete the full twelve weeks of attendance in the Winter Course in Poultry Husbandry is eligible for a certificate.

IV. COURSE IN FRUIT GROWING

Each year since the establishment of the Winter Courses the demand for special instruction in fruit growing has increased. The opportunities for profitable fruit raising on the comparatively cheap lands of the East, within easy reach of the great markets, are attracting capital and energy. It is in response to this general demand and these opportune conditions that a Winter Course in Fruit Growing is offered. The studies included in this course are intended to help the fruit grower to manage his orchards better than in the past; to

fit those who have had some experience for positions of responsibility; to give the beginner the salient principles, and acquaint him as far as possible with the best practices, of commercial and amateur fruit growers throughout the country.

Required Subjects

All students in this course, except those who have already satisfactorily completed the Winter Course in Agriculture, are required to take the subjects that follow. Those who have completed the Winter Course in Agriculture will not be required to take again subjects in which they have already passed, and may elect others from the Course in Agriculture in their place.

1. **Commercial Fruit Growing.** Seven hours a week. Lectures, daily except S, 9. Roberts Hall 292. Practice, M W, 2-4.30, or M W, 10.30-1. New greenhouses. Messrs. ROGERS, HEINICKE, and OVERHOLSER.

This course is designed primarily for students who desire to specialize in fruit growing. It includes a study of methods of propagation; principles of budding and grafting; soils, varieties, and planting plans for the orchard; cultivation; cover crops, fertilization, spraying, and pruning, as practiced in orchard management; the picking, grading, packing, storing, and marketing of fruit. The course considers apple, pear, quince, cherry, plum, apricot, peach, grape, raspberry, blackberry, dewberry, currant, gooseberry, and strawberry. Laboratory fee, \$2.

1. **Plant Diseases.** See page 23.

1. **Injurious Insects.** See page 16.

1. **Fertility of the Land.** See page 15.

200. **Soils.** See page 24.

V. COURSE IN HOME ECONOMICS

The main object of the Winter Course in Home Economics is to provide scientific training in subjects pertaining to the home. Special attention is given to household sanitation, selection and preparation of foods, problems of nutrition, house construction and decoration, household management, and sewing. The instruction is of interest to both men and women in so far as both are concerned with the problems of the right maintenance of the home. The aim of the course is to increase efficiency in household administration, to give the breadth of view and the interest which come with intelligent labor, to teach not only how to do the work but also why it should be done.

The equipment for instruction in this course is the same as that for the longer courses in home economics. A well-equipped laboratory is provided for practical instruction in foods. Library privileges are offered.

For several years past, some of the students in the course have been women who found it possible to accompany another member of the family attending one of the other Winter Courses. Some have combined with the Course in Home Economics instruction in another of the Winter Courses.

In order to keep a proper social balance in a community, farm girls should be given social and educational opportunities equal to those given to boys. Household problems, as well as the problems of the farm, rest on science; hence there is equal need for a course of training to prepare women for their tasks in life.

Special Expenses

A food laboratory fee of \$7.50 is required to cover the cost of materials used. Those taking the course in sewing will be charged an additional fee of \$2. For the purchase of books and a thermometer, from \$3 to \$5 should be allowed.

Required Subjects

1. **Foods.** Lectures, three hours a week; two laboratory periods a week, of three hours each. Open to election by the general student so far as laboratory space will permit. Lectures, M W F, 9. Home Economics Building 245. Practice: sec. I, T Th, 8-11; sec. II, T Th, 2-5. Home Economics Building 270. Professor ROSE and ———. The number of students taking laboratory work in this course will be limited to forty. Those who register early and are taking the full Winter Course in Home Economics will be given first choice.

The course will include a study of food composition, food values, methods of selection, preparation, and preservation of food materials, principles of nutrition, dietaries, care and feeding of children. Laboratory work will be given for application of the principles studied, and will include practice in preparation of food and in serving. Laboratory fee, \$7.50.

2. **Household Sanitation.** Two hours a week. Lectures, W F, 10. Home Economics Building 245. Professor VAN RENSSLAER and others.

The lectures in this course include a discussion of the sanitary condition of the house and the site; conditions for health and for care of the sick; the relation of bacteriology to the household.

3. **Household Management.** Two hours a week. Lectures, W F, 11. Home Economics Building 245. Professor VAN RENSSLAER.

This course includes a study of the family income, cost of living, household accounts, problems of domestic service, methods of housekeeping, equipment, marketing.

[4. **Sewing and Drafting.** Two hours a week. Sec. I, T Th, 8-11; sec. II, T Th, 2-5. Home Economics Building 300. Miss BLACKMORE. The number of students taking this course will be limited to forty. Those who register early and are taking the full Winter Course in Home Economics will be given first, choice.] Not given in 1915-16.

Instruction in sewing, cutting, and fitting garments. Laboratory fee, \$1.

5. **Art in the Home.** Two hours a week. Lectures, T Th, 11. Home Economics Building 245. Assistant Professors YOUNG and WARNER.

A course which considers the development of more artistic home surroundings; the building site, the garden, accessory buildings; the furnishing and decoration of the house; the selection of books and pictures.

6. **Home Industries for Farm Women.** Two hours a week. Lectures, M F, 2. Home Economics Building 100. Assistant Professor HAZARD.

This lecture course will not only suggest various by-industries which may be carried on in the home along with the regular work of the housewife and her daughters, but will give also the history of similar work in other countries and centuries, and will offer theoretical information as to the necessary processes of advertising, cost accounting, and marketing in connection with the product of the by-industry, in order to make it a commercial success as well as a pleasure.

Individual conferences may be arranged for any time by appointment, by those who have definite plans, projects, or problems to present.

7. **Rural Recreation.** One hour a week. Open to women and men in all Winter Courses. Time to be arranged. Practice by arrangement. Home Economics Building 245. Miss HUFF.

This course is intended to help those who are interested in developing new forms of rural recreation and in reviving old games and old songs that are of value. Instruction will be given in social forms to be used in granges and other organizations, also practice in music, speaking, games, and other amusements. The course will end in a program possible to be carried out in rural communities.

Elective Subjects

In addition to the courses outlined in home economics, opportunities are open to women to receive instruction in dairying, poultry husbandry, gardening, and extension work. Practical instruction may thus be obtained relating to milk and its products; feeding, care, and marketing of eggs and fowls; diseases of fowls; commercial fruit growing, vegetable culture, and flower growing; public speaking.

VI. COURSE IN FLOWER GROWING

New York is distinctly a flower-growing State. The financial interests of the industry are greater in this State than in any other State in the Union. There is coming to be a keener competition among flower growers, and the most progressive young men realize that they must equip themselves with all the information possible if they are to make a success of the business. Two courses are offered for those especially interested in commercial floriculture. These, with other required subjects, should give the student a broad knowledge of the subject and better equip him for his life work.

Interest in flower growing, however, is not confined to men engaged in the commercial side. There is an increasing demand by amateurs for information regarding the culture of plants to be used about the home or the school grounds. Courses have been arranged with the object in view of meeting this demand. These courses are outlined on page 18. Those following are planned especially for persons who intend to engage in commercial floriculture. Course 2 is equally well suited for those interested in vegetable forcing under glass.

Required Subjects

1. **Commercial Floriculture and Greenhouse Practice.** Seven hours a week. Lectures, M T Th F, 2, S, 10. Floriculture Building. Practice, T Th, 10-1. Greenhouses. Professor WHITE and Mr. THAYER.

A study of the method of growing standard florist crops, such as roses, carnations, violets, sweet peas, orchids, and plants for bedding. So far as possible, laboratory practice in growing these crops will be given. The course is designed to familiarize the student with the ordinary work of the greenhouse and the garden. Laboratory fee, \$3.

2. **Commercial Greenhouse and Conservatory Construction and Heating.** Three hours a week. Lectures, F, 2. Floriculture Building. Practice, W, 2-4.30, F, 10-1. Floriculture Building. Messrs. PATCH and THAYER.

This course considers details of the construction and heating of glasshouses for growing plants and vegetables; choice of location; water, soil, and light; glazing; and all the conditions found in well-appointed modern ranges. The construction and care of hotbeds and cold frames are also studied. Laboratory work consists of drawings of construction details, the making of plans and specifications, preparation of estimates, and any practical work in construction that may be available. Laboratory fee, \$1.50.

1. **Fertility of the Land.** See page 15.

200. **Soils.** See page 24.

1. **Plant Breeding.** See page 23.

Elective Subjects

1. **Plant Diseases.** See page 23.
1. **Injurious Insects.** See page 16.
1. **Extension Work.** See page 16.
6. **Rural Improvement.** See page 18.

Certificate of Proficiency

Certificates are available to students who satisfactorily complete the required courses as above outlined, and who subsequently spend one full season in floricultural work. A statement of the work for the season, approved by the proprietor of the establishment in which the student has been employed and satisfactory to the Professor of Floriculture, is required.

VII. COURSE IN VEGETABLE GARDENING

With the rapid growth of our cities and with vegetable food occupying a place of constantly increasing importance in the dietary, the demand for vegetables has undergone a great development within the last few years. An ever-increasing number of farmers are looking to the growing of vegetables as a source of all or part of their income, both on highly specialized vegetable farms and in connection with other less intensive types of agriculture.

In view of the wide and growing interest in the subject of vegetable culture, the Department of Vegetable Gardening has arranged a series of courses to meet the needs of those who wish to specialize to a greater or less extent in this field. Particular pains are taken to so shape the work that it will be of service to men who have already gained field experience. The principles advanced are illustrated by reference to the practices of widely diverse growing centers of the United States, and the discussions are becoming more interesting from year to year, as the proportion of actual vegetable growers in the class increases. To students who are in a position to consider spending two winter-course periods at the University, it is recommended that the first be devoted to general agriculture, thus establishing a sound basis for the more highly specialized vegetable work of the second year.

Required Subjects

1. **Commercial Vegetable Growing.** Six hours a week. Lectures, M T Th F, 2. Poultry Building 350. Laboratory, T Th, 10-12.30. Poultry Building 350, and vegetable greenhouses. Mr. SCHNECK.

The production of vegetables for market; choice of location, equipment, management of soil and crops, seed and seed sowing, plant growing, pests and their control, and marketing. Each crop is considered individually as regards value and adaptation, fertilizers, culture, special requirements, varieties, enemies, harvesting, and marketing. The laboratory work includes planning, seed and seedling studies, seed testing, and descriptive work. Plants are grown under glass as for outdoor setting. Laboratory fee, \$2.50.

2. **Vegetable Forcing.** Three hours a week. Open only to those who are taking course 1. Lectures, M F, 4. Poultry Building 350. Laboratory, S, 10.30-1. Poultry Building 350, and vegetable greenhouses. Mr. SCHNECK.

Vegetable production under glass; management of greenhouses and frames; individual crops and their requirements. In connection with the laboratory, each student will be assigned space in the greenhouses for the growing of crops. Laboratory fee, \$1.50.

1. **Fertility of the Land.** See page 15.

200. **Soils.** See page 24.

Elective Subjects

2. **Commercial Greenhouse and Conservatory Construction and Heating.** See page 36.

1. **Plant Diseases.** See page 23.

1. **Injurious Insects.** See page 16.

OTHER WORK OF THE COLLEGE OF AGRICULTURE

In addition to offering the Winter Courses, the New York State College of Agriculture at Cornell University is endeavoring to serve the agricultural interests of the State by the following and by other means:

The Four Year Course in Agriculture.—This course is of equal academic rank with other courses in Cornell University. It offers a thorough theoretical and practical training in agricultural and country-life subjects. The equivalent of a high school training is necessary for admission. A program will be sent on application to the Secretary, College of Agriculture.

Special attention is called to the fact that a full-length summer term, continuing from early June until late September, is now offered. It is open to post-graduates and to undergraduates of junior and senior standing.

Specialized Courses in Landscape Art, Forestry, Agricultural Education, and Home Economics, comprising the junior and senior years in the four year course and providing special professional instruction in these subjects. At the end of the fifth year, the course in forestry leads to the degree of master in forestry, and the course in landscape art to the degree of master in landscape design.

Special Work in Agriculture.—Special students take, as far as they are qualified to pursue them, whatever studies will be most valuable in the various departments. This opportunity to pursue special work is provided especially for those who wish to fit themselves for practical farming but who cannot take a four year course, and for those who desire to spend a brief period in special study. About two years can be spent profitably in this work. In the admission of special students, each case is judged on its own merits. Persons desiring to enter as special students must, first, offer two full years of recent farm experience, and, second, either offer fifteen units of entrance credits or be twenty-one years of age. Persons admitted on the age requirement must satisfy the faculty of their ability to do the work. Every applicant must submit a full statement of school and other experiences, together with references.

Summer School in Agriculture.—A six week course established primarily for the training of persons who desire to teach, or to supervise the teaching of, agriculture, nature study, and home economics. The courses are open not only to teachers, principals, and supervisors, but also to other qualified persons who may wish to avail themselves of the opportunities offered. Courses carrying university credit are offered for college and other advanced students.

Reading Course for the Farm. For those who are unable to leave their work but desire to learn. Practical bulletins on agricultural subjects are sent to the reader, and correspondence is encouraged. Free to persons residing in New York State. Address Cornell Reading Course for the Farm, College of Agriculture.

Reading Course for the Farm Home. Similar to the preceding, but the bulletins discuss household economy, cooking, home furnishing, and related topics. Address Department of Home Economics, College of Agriculture.

Nature Study Agriculture.—Extension work for teachers and pupils, particularly in the rural schools. A publication is issued in the interest of this work, The Cornell Rural School Leaflet. Address Cornell Rural School Leaflet, College of Agriculture.

The Agricultural Experiment Station issues bulletins on agricultural subjects which are sent free to residents of New York. Back numbers of some issues are available. Address Mailing Room, College of Agriculture.

Cooperative Experiments in Agriculture.—The College cooperates with farmers in making on their land demonstrations that will be of direct practical value to them.

Correspondence and cooperation are solicited in connection with any of these various enterprises. For information, address

Dean of the College of Agriculture,
Ithaca, New York.

OFFICIAL PUBLICATIONS OF CORNELL UNIVERSITY

Issued at Ithaca, New York, monthly from July to November inclusive, and semi-monthly from December to June inclusive.

[Entered as second-class matter, August 31, 1910, at the post office at Ithaca, New York, under the Act of July 16, 1894.]

These publications include

The Annual Register (for the year 1914-15, published January 15, 1915), price 50 cents.

Catalogue Number for 1913-14 (containing lists of officers and students), price 25 cents.

Book of Views, price 25 cents.

Directory of Faculty and Students, Second Term, 1914-15, price 10 cents, and the following informational publications, any one of which will be sent gratis and post free on request. The date of the last edition of each publication is given after the title.

General Circular of Information for Prospective Students, January 1, 1915.

Announcement of the College of Arts and Sciences, May 1, 1915.

Announcement of the Department of Chemistry, May 15, 1915.

Announcement of Sibley College of Mechanical Engineering and the Mechanic Arts, February 1, 1915.

Announcement of the College of Civil Engineering, March 1, 1915.

Announcement of the College of Law, June 1, 1915.

Announcement of the College of Architecture, August 1, 1915.

Announcement of the New York State College of Agriculture, July 1, 1915.

Announcement of the Winter Courses in the College of Agriculture, September 1, 1915.

Announcement of the Summer Term in Agriculture, April 15, 1915.

Announcement of the New York State Veterinary College, June 15, 1915.

Announcement of the Graduate School, February 15, 1915.

Announcement of the Summer Session, April 1, 1915.

Annual Report of the President, October 1, 1914.

Pamphlets on prizes, samples of entrance and scholarship examination papers, special departmental announcements, etc.

Announcement of the Medical College may be procured by writing to the Cornell University Medical College, Ithaca, New York.

Correspondence concerning the publications of the University should be addressed to

The Secretary of Cornell University,
Ithaca, New York.